

Mark PAUSCH  
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conditions comprising 0.5X SSPC at 60°C, and wherein said nucleotide sequence encodes a potassium channel, wherein said potassium channel comprises a first pore-forming domain interposed between a first and a second transmembrane helix and a second pore-forming domain interposed between a third and a fourth transmembrane helix, and wherein the first pore-forming domain comprises SEQ ID NO:57, wherein

X at positions 1, 4, and 5 are T or S;

X at position 6 is I or V; and

X at position 8 is V, L, Y, F, M, or I;

(iii) a nucleotide sequence that is degenerate to the nucleotide sequence of SEQ ID NO: 1 or SEQ ID NO:36; or

(iv) a functional derivative comprising at least 40% homology to the nucleotide sequence of SEQ ID NO: 1 or SEQ ID NO:36.

33 27. (Amended) A vector comprising the nucleic acid of Claim 22.

29. (Twice Amended) A vector comprising the nucleotide sequence of Claim 24.

34 30. (Amended) A transformed yeast cell comprising the vector of Claim 27.

35 33. (Amended) A kit comprising the nucleotide sequences of Claim 22 or Claim 24.

### REMARKS

Applicants respectfully request reconsideration and further examination in view of the following remarks.

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